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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/858,118	05/15/2001	Brenton L. Dickey	MICRON.086DV1/98-1153	1755

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EXAMINER

MITCHELL, JAMES M

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 04/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/858,118

Applicant(s)

DICKEY, BRENTON L.

Examiner

James Mitchell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35-44 and 46-58 is/are rejected.
- 7) ☒ Claim(s) 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This office action is in response to the application filed May 15, 2001.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. The disclosure is objected to because of the following informalities: the word file in Line 2 of claim 45 appears to be a typographical error.
4. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 35-39, 46-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Sheppard et al. (U.S 6, 284,569).
7. Sheppard discloses a method wherein side and cross bars (via stiff carrier) are connected to a substrate film (501) by aligning index holes that are formed in the side bar with index holes on the substrate (Column 4, Lines 20-25) such that the side bars are substantially aligned with the side rails in the film (Fig. 5) and the cross bars (horizontal portion that connects the side bars of carrier) are aligned with cross rails (horizontal portion that connects side rails in the film) to define a plurality of substrate

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units that form a central cavity in each unit (Columns 1-2, Lines 66-2) and to form a support material at a region on the film (Column 2, Lines 12-13) such that a plurality of dies interface with the substrate (Column 4, Lines 64-65; Column 5, Lines 24-25) by leads from dies (Column 5, Lines 23-25) via lead over the die (shown in Fig.8) and leads under dies (Fig. 9), and a portion of said carrier is removed at the completion of a manufacturing process (Column 2, Lines 49-60) which inherently removes the substrate unit from the substrate film, the support member ("carrier") to the substrate inherently connects (via adhesive), thickens the edges of the film and adds enhance rigidity (via stiffness of carrier), said substrate alternatively formed of a flexible tape (Column 4, Lines 15-17).

8. Claims 40 is rejected under 35 U.S.C. 102(e) as being anticipated by Farnworth et al. (U.S 6,319,354).

9. Farnworth discloses (at Fig. 3A and 7) a method comprising connecting side bars (64) to a substrate film (12), wherein the bars and substrate are transported though a manufacturing process and then the bars are removed (steps shown in Fig. 11).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnworth as applied to claim 40 and further in view of Beck et al. (U.S 5,980,683).

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12. Farnworth suggest that the carrier can be made from either thermosetting or thermoplastics (Column 7, Lines 25-29) but does not explicitly disclose the material as either BT resin or a Polyimide, however examiner takes official notice that it would have been obvious to one of ordinary skill in the art to form the carrier of either a polyimide or BT resin, since both were well known in the art at the time the invention was made for providing a thermosetting or thermoplastic material.

13. In regard to claim 43, since applicant does not claim there are different materials separating the polyimide material that form the side bars of the carrier, a carrier made of polyimide inherently possesses multiple contiguous layers.

14. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farnworth as applied to claim 40 and further in view of Long et al. (U.S 5,023,202).

15. Farnworth suggests that the carrier can also include a metal layer (Column 7, Lines 31-32) but does not explicitly disclose the material as Copper. However Long utilizes copper side and cross bars with a polyimide (Fig.1).

16. It would have been obvious to one of ordinary skill in the art to incorporate a copper side or cross bar with the tape of Farnworth in order to increase mechanical rigidity as taught by Long (Abstract).

Allowable Subject Matter

17. Claim 45 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

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25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Beck et al. (U.S 5,980,683), Farnworth et al. (U.S 5,286,679).

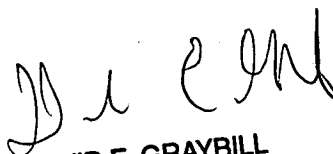
The prior art discloses in Beck the use of either a polyimide or BT resin to reinforce a substrate, and in Farnworth the use of a conventional LOC and LUC.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mitchell whose telephone number is (703) 305-0244. The examiner can normally be reached on M-F 10:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3230 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Jmm
March 22, 2002


DAVID E. GRAYBILL
PRIMARY EXAMINER